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| 10/767,620 | 01/29/2004 | Sunil Kesavan | 1356-014 | 5660 |

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| EXAMINER |
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LUK, EMMANUEL S

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| ART UNIT | PAPER NUMBER |
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1722

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09/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/767,620 | Applicant(s) KESAVAN ET AL. | |
| | Examiner Emmanuel S. Luk | Art Unit 1722 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9,54-59 and 61-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-9,54-59 and 61-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 3-9 and 54-59, and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winget (6,164,953) in view of Kim (6,776,942).

Winget discloses a mold for molding plastic material, comprising a first and second mold halves (11, 13), wherein the mold members movable relative to each other between an open position and a closed position forming a cavity (16) in between (col. 3, lines 51-56), wherein the mold halves (11, 13) include a pair of porous parts/sections (28", 30") formed within the mold member for removing gas and volatiles trapped at the article surfaces and releasing to the atmosphere (col. 4, lines 23-29) in addition that the parts act as core pins and ejector pins (col. 4, lines 60-64), wherein the porous sections are made of metal (col. 4, lines 12-16). The core pins and ejector pins acting similar to the claimed first member punch as it moves within the second mold member (one of the mold halves). The third mold member that aids in forming the cavity is taught by Winget as the opposing mold halve that mates with the other mold half (the second mold part) to form the cavity.

However, Winget fails to disclose that the porous sections has a porosity between about 5% -25% and an average pore diameter between 1-280 micron. Kim discloses arnold made from a porous metal material that has a porosity of about 5% to about 50% and has a range of average pore diameters from about 3 to about 10

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micron (col. 5, lines 38-53), so that the molding can be performed while applying a vacuum during the molding cycle to create a suction on the exterior surfaces of the porous metal that pulls vent gases through the porous metal out of the cavity to enhance venting and reduces formation of pin marks and knit lines (col. 5, lines 26).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Winget by providing the porous member having a porosity of about 5%-50% and has average pore diameters between 3 -10 micron as taught by Kim, because the mold member having these properties would enhance venting from the mold cavity during molding and would reduce formation of unwanted marks on the products. In regard to claim 3, Kim discloses the porosity of about 1-10 micron. One of ordinary skilled in the art would have been motivated to modify the porosity to up to 15 micron depending on the material being formed, the temperature and pressure of the cavity during the molding process. It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

In regard to claims 5 and 54, Winget discloses that the metal porous member or the gas permeable section is aluminum (co. 4. lines 13-19).

In regard to claims 6-8, 56-69 and 61, Winget is capable of operating at a high temperature and high pressure because gases and volatiles are built up in the mold cavity during the molding process. Further, the operating condition of the apparatus can

not be used to determine the patentability of apparatus claims. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Daly*, 263 F. 2d 844, 847, 120 USPQ528, 531 (CCPA 1959).

"[A]pparatus claims cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, ~09 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (Emphasis in original)

It has been held that a functional limitation asserted to be critical for establishing novelty may, in fact, be an inherent characteristic of the prior art. The applicants is required to prove that the subject matter shown in the prior art does not necessarily possess the characteristics relied on. *In re Schreiber*, 128 F. 3d 1473, 1478, 44 USPQ 2d, 1432 (Fed. Cir. 1997); See also, *In re Spada*, 911 F 2d 705, 708, 15 USPQ 2d 1655, 1658 (Fed. Cir. 1977); *In re Best*, 562F. 2d 1252,1255, 195 USPQ 430, 433 (CCPA 1977); and *Ex Parte Gray*, 10 USPQ 2d 1922, 1925 (Bd. Pat.App. & Int. 1989).

In regard to claim 9, Winget discloses that the mold is used for molding/compressing different plastic material such as SMC body panels, that inherently includes a friction material or phenolic resin or a reinforcement structure. Furthermore, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 16~ USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). MPEP § 2115.

In regard to claim 55, Winget fails to disclose that the entire mold comprises micro-porous sintered aluminum. Kim discloses that the entire mold is made of porous metal to improve the venting from the mold cavity to improve the durability and cosmetic quality of the molded product (col. 4, lines 19-21). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Winget by provide the entire mold made of porous material as taught by Kim in order to enhance venting from the mold cavity during the molding process. In regard to claim 62, wherein the second mold member (13) include a mold body (13,14).

In regards to claims 57 and 58, these are use of the apparatus for heating and pressure. A structural limitation could not be discern from the claims and is thus an intended use of the apparatus claims.

In regards to claims 63 and 64, the third mold part being a plate. One of ordinary skill in the art recognizes the mold half of Winget can also be considered to be a large plate that forms the upper mold half.

Response to Arguments

3. Applicant's arguments filed 7/9/07 have been fully considered but they are not persuasive. The applicant's arguments have been considered, however, it must be noted that there have been little discussion concerning the embodiment in Winget concerning the ejector parts that are gas permeable and acts similar to the claimed first mold member (punch). The porous metal parts degas the cavity as stated in Winget,

the arguments by the applicants concerning the differences have been noted, however the claimed apparatus relates to a gas permeable section.

The operation of temperature and pressure in the claims are only intended use claims with no positive claim limitations that the mold does operate at those parameters. Furthermore, the claimed gas permeable section is construed as intended use of the apparatus. The arguments concerning venting is noted, however, all that claimed apparatus states is that there is a gas permeable section that is operable to vent gasses from the cavity and this is taught by Winget.

In regards to Kim and Winget, one of ordinary skill in the molding arts at the time of the invention was made would know to reference documents for venting and this would include both Winget and Kim since both are related to the molding arts. Both Kim and Winget show a well known problem in injection molding concerning venting in the cavity and thus it would have been obvious for one of ordinary skill in the art to incorporate lessons taught from these references. Kim teaches venting of the cavity and utilizing vent pins that are formed from porous metals, thus combination would also solve the venting argument instead of just absorption that the applicants have focused solely upon Winget.

The applicant's argument have been considered but are not persuasive, thus the rejection stands.

It should be noted from the applicant's amendments and the history of the prosecution that there is no claim 60. The original claims only went up to claim 53, then in the amendment by the applicants on December 12, 2006, new claims were added,

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however the listings went up to claim 59, claims 60 was not listed, and continued forth on claims 61-64. Subsequent amendments have also been silent on claim 60.

Thereby, claim 60 does not exist and considered canceled.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wieder (6367765) and Nakano (5660863).


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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